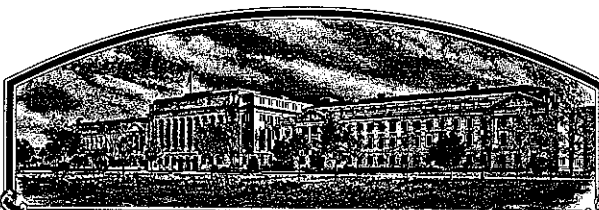


No.



8300043

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nickerson American Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS OF THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Erik'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 30th day of August in the year of our Lord one thousand nine hundred and eighty-five.

Attest

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R. Blum
Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY HS79-304		1b. VARIETY NAME Erik		FOR OFFICIAL USE ONLY PV NUMBER 8300043	
2. KIND NAME Hard Red Spring Wheat		3. GENUS AND SPECIES NAME <u>Triticum aestivum</u> L.		FILING DATE 1-10-83	TIME 8:30 A.M.
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION 1) March 1979 2) March 1981		FEE RECEIVED \$ 1,000 \$ 500.00	DATE 1-10-83 7/22/85
6. NAME OF APPLICANT(S) NICKERSON North American Plant Breeders, INC.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Drive, P.O. Box 2955 Mission, KS 66201		8. TELEPHONE AREA CODE AND NUMBER 913-384-4940 KS 303-532-3721 CO	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Partnership		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Stamford, CT		11. DATE OF INCORPORATION March 1973	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: G.E. HEINER P.O. Box 2955 Mission, KS 66201 ROBERT F. BRUNS P.O. Box 30 Berthoud, CO 80513					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☒ 13D. Exhibit D, Additional Description of the Variety.
- ☒ 13E. Exhibit E., Quality Data

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☒ YES ☐ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

December 9, 1982
(DATE)

Dec 20, 1982
(DATE)

Robert Heiner
(SIGNATURE OF APPLICANT)

[Signature]
(SIGNATURE OF APPLICANT)

Exhibit A

Origin and Breeding History of Erik

Pedigree: Kitt//Waldron/Era

History: The F₂ population was obtained from the University of Minnesota in 1977. Erik originated from a single F₃ head selection in 1978. An F₄ bulk of this selection was first entered into yield trials in 1979 under the experimental number HS79-304. From the original F₄ bulk, 184 headrows were grown in Berthoud during 1980 for initial purification. Of these 2 (1%) rows were discarded for having longer beaks. In the 1981 season, the remaining bulked headrows were grown to produce the breeder seed lot. In 1982, 4600 units of registered seed were produced. This line has been in wide scale testing throughout the spring wheat region of the upper Midwest during the 1980 through 1982 seasons.

Erik is uniform and pure. Less than .05% of the plants have been rogued from registered fields in 1982. 95% of these rogued plants were three to five centimeters taller than Erik. Less than .05% of these taller plants may be expected in subsequent generations.

8300043

Exhibit B
Novelty Statement

Erik is most similar to the two hard red spring wheats
Kitt and Era. However, Erik can be distinguished on the
following morphological characteristics.

- Erik, Era and Kitt all differ significantly in beak
length. (~~See Exhibit E., page 1~~).

Erik
5/17/85

<u>Variety</u>	<u>Beak Length</u>
Kitt	7.3
Erik	5.3
Era	3.7
LSD (.05)	.78

8300043

ANOVA Table

Beak lengths of Era, Kitt, Erik

Source	df	ss	ms
Total	75	300.57	
VAR	2	762.53	81.265**
Error	73	138.04	1.917

F test = 42.39**

LSD (.05) = .78

VAR	Mean
Kitt	7.3
Erik	5.3
Era	3.7

VARIETY: Erik

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-6
(2-15-73)UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782EXHIBIT C
(Wheat)OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

NICKERSON
North American Plant Breeders, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

5201 Johnson Drive, P.O. Box 2955
Mission, KS 66201

FOR OFFICIAL USE ONLY

PVPO NUMBER

8300043

VARIETY NAME OR TEMPORARY
DESIGNATION

ERIK

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. 089 or 09) when number is either 99 or less or 9 or less.

1. KIND:

1 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 2 1 = SOFT 3 = OTHER (Specify)
2 = HARD2 1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

085 FIRST FLOWERING planting 090 LAST FLOWERING

4. MATURITY (50% Flowering): same as Era in maturity

-- NO. OF DAYS EARLIER THAN - 1 = ARTHUR 2 = SCOUT 3 = CHRIS
03 NO. OF DAYS LATER THAN 3 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

077 CM. HIGH02 CM. TALLER THAN 7 1 = ARTHUR 2 = SCOUT 3 = CHRIS25 CM. SHORTER THAN 3 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7 = Era

6. PLANT COLOR AT BOOTING (See reverse):

2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHUR COLOR:

1 1 = YELLOW 2 = PURPLE

8. STEM:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT2 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT04 NO. OF NODES (Originating from node above ground)2 Waxy bloom: 1 = ABSENT 2 = PRESENT1 Internodes: 1 = HOLLOW 2 = SOLID15 CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT2 Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

2 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED
3 = OTHER (Specify)2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED1 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT2 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT14 MM. LEAF WIDTH (First leaf below flag leaf)24 CM. LEAF LENGTH (First leaf below flag leaf)

FORM GR-470-6 (REVERSE)

11. HEAD:

Density: 1 = LAX 2 = DENSE 3 = middense Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) _____

Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

CM. LENGTH MM. WIDTH

12. GLUMES AT MATURITY:

Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE average 4mm'

13. COLEOPTILE COLOR:

1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL Cheek: 1 = ROUNDED 2 = ANGULAR

Brush: 1 = SHORT 2 = MEDIUM 3 = LONG Brush: 1 = NOT COLLARED 2 = COLLARED

Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

MM. LENGTH MM. WIDTH GM. PER 1000 SEEDS

17. SEED CREASE:

Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = moderate resistant 4 = moderate susceptible

STEM RUST (Races) LEAF RUST (Races) STRIPE RUST (Races) LOOSE SMUT

POWDERY MILDEW BUNT OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = moderate resistant

SAWFLY APHID (Bydv.) GREEN BUG CEREAL LEAF BEETLE

OTHER (Specify) _____ HESSIAN FLY RACES: GP A B C
 D E F G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Kitt	Seed size	Kitt
Leaf size	Kitt	Seed shape	Kitt
Leaf color	Kitt	Coleoptile elongation	Kitt
Leaf carriage	Kitt	Seedling pigmentation	Kitt

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

Exhibit D
Additional Description

Erik is a hard red spring wheat tested as HS79-304. It was developed by North American Plant Breeders.

Erik is a semi-dwarf spring wheat with good disease resistance and late maturity, similar to Era. Milling and baking qualities are satisfactory.

Juvenile plant growth habit is semi-erect. Plant color at boot stage is green with a recurved, twisted flag leaf. Head shape is tapering to strap, middense, awned and head color is white at maturity. Glumes are medium in length and width. Beaks are acuminate and shoulders are oblique. Seed shape is ovate with rounded cheeks.

Erik is adapted to the hard red spring wheat area of the Red River Valley, South Dakota, North Dakota and Minnesota.

YEAR: 1982

North American Plant Breeders
HARD RED SPRING WHEAT QUALITY

PAGE 2

YEAR	SAMPLE NAME	LOC	WHEAT--FLOUR QUALITY										BAKING QUALITY										MILL SCORE	BAKE SCORE	TOTAL SCORE	
			TEST WT.	WHT PROT	14%mb	%	FLR YLD	FLR PROT	FLR ASH	MIX CURVE	ABS. %	MIX DOUGH			LOAF			CRUMB			GRN	TEX				COL
												min	R	cc	cc	R	R	R	R	R						
79	HS79-304	HU	60.6	14.7	71.4	13.7	0.413	6	6	65.0	3.8	6	1000+	5	4	3								99-B	82-B	170-B
80	HS79-304	BR	61.8	12.4	71.8	10.9	0.505	4	4	56.0	4.0	7	850	7	7	9								63-D	71-C	134-D
80	HS79-304	HU	59.6	14.1	66.3	11.6	0.495	4	4	57.0	4.0	7	1000+	8	8	3								65-D	73-C	144-C
91	HS79-304	CR	57.9	13.0	71.0	11.5	0.448	5	5	62.0	4.5	9	940	8	8	8								70-C	84-B	154-C
91	HS79-304	HU	57.6	15.4	69.7	13.3	0.446	8	8	65.0	3.8	9	1000+	9	9	9								84-B	96-A	180-A
91	HS79-304	CY	58.4	12.6	73.9	11.5	0.496	6	6	64.0	3.3	9	920	7	9	8								74-C	84-B	158-C
82	ERIK	CR	59.9	14.6	68.9	12.7	0.411	5	5	62.0	3.8	9	975	9	9	9								75-C	86-B	161-B
82	ERIK	CY	61.1	12.7	72.2	10.6	0.464	5	5	60.0	3.5	8	925	7	8	8								70-C	78-C	149-C
92	ERIK	HU	59.9	14.4	66.7	13.0	0.431	4	4	62.0	4.8	8	950	9	9	9								69-D	82-B	151-C
AVERAGE			59.4	13.9	70.2	12.1	0.457	5	5	61.4	3.9	8	946	8	8	9								75-C	82-B	157-C
79	ERA	HU	58.4	14.4	70.3	13.3	0.464	7	7	64.0	4.8	6	1000+	7	6	9								93-B	85-B	168-B
80	ERA	BR	63.3	11.4	71.3	10.0	0.489	4	4	56.0	3.0	7	875	6	6	9								58-F	67-D	125-D
90	ERA	HU	60.2	13.4	66.2	10.9	0.494	4	4	56.0	4.5	7	1000+	8	7	9								58-F	78-C	136-D
91	ERA	CR	57.2	12.6	70.4	10.9	0.526	5	5	62.0	4.8	8	980	7	7	8								62-D	82-B	144-C
91	ERA	HU	56.8	15.6	66.7	13.9	0.563	8	8	66.0	4.3	8	1000+	8	9	9								78-C	93-A	171-B
91	ERA	CY	60.0	12.6	70.6	10.8	0.451	5	5	61.0	5.0	9	940	8	7	9								66-D	73-C	145-C
92	ERA	CR	61.4	13.5	72.3	11.4	0.436	6	6	62.0	3.9	8	950	8	8	9								77-C	86-B	163-B
92	ERA	CY	61.7	13.5	73.8	11.5	0.452	6	6	63.0	4.3	9	960	7	9	9								79-C	87-B	166-B
82	ERA	HU	58.8	14.2	70.7	12.8	0.423	4	4	60.0	5.0	8	1000+	8	9	9								74-C	83-B	157-C
AVERAGE			59.3	13.5	70.3	11.9	0.478	5	5	61.1	4.4	8	989	7	7	9								73-C	81-B	154-C

GRADES: A-EXCELLENT 8-GOOD C-ACCEPTABLE D-QUESTIONABLE F-UNACCEPTABLE
 R-RATINGS: 9-10-EXCELLENT 9-GOOD 7-ACCEPTABLE 5-6-QUESTIONABLE 1-4-UNACCEPTABLE